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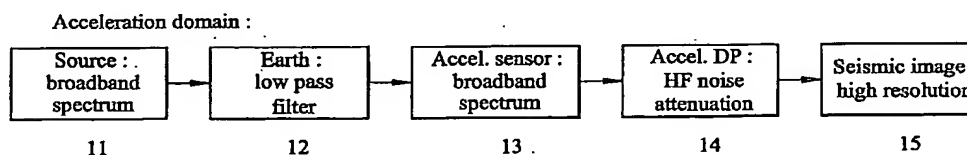
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESSING SEISMIC DATA REPRESENTATIVE OF THE ACCELERATION WAVEFIELD



(57) Abstract: A method of processing seismic data comprises processing data representative of the acceleration wavefield so as to obtain information about the earth's subsurface direct from the seismic data representative of the acceleration wavefield. In conventional techniques for processing seismic data representative of the acceleration wavefield the data are transformed to the velocity domain at an early stage in the processing. The invention enables the transform step to be eliminated, thereby simplifying the processing and eliminating the risk that the transform might degrade the data. Furthermore, the increased sensitivity at high frequencies of a typical acceleration sensor compensates for the low-pass filter effect of the earth.